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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,175	02/09/2001	Todd A. Hermanson	00H1410	1733

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EXAMINER

PATEL, NIMESH G

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 02/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/681,175

Applicant(s)

HERMANSON ET AL.

Examiner

Nimesh G Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 10-12, 17-18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornton et al.(6,385,666), in view of Heller et al.(6,119,146) hereinafter referred to as Thornton and Heller respectively.

4. Regarding claim 1, Thornton discloses a system of extending the separation range of a keyboard, a video display, and a mouse from a PC. Thornton discloses a conventionally configured PC as having keyboard, video, and mouse connectors thereon adapted for coupling with conventional keyboard, video, and mouse cables(Column 7, Lines 3-12). Thornton also discloses an expansion slot configured for provision of power and digital information when

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occupied by an expansion card, which is inherent in a conventionally configured system.

Thornton further discloses the use of an interface device having keyboard, mouse and, video connectors and adapted and configured for combining and separating keyboard, video, and mouse signals. The interfacing device has a jack that is coupled to a cable, which is coupled to a remote module/receiver/transmitter adapted and configured for combining and separating keyboard, video, and mouse signals. The cable carries the combination signal from the previously independent keyboard, video, and mouse signals(Column 7, Lines 35-55).

Thornton does not disclose the use of an expansion card. However, Thornton discloses of a device that has keyboard, video, and mouse connectors and a cable jack(Column 7, Lines 43-47 and Column 10, Line 60) and that performs the same function as the expansion card claimed by the applicant. Further, Heller discloses the use of an expansion card that performs the same function as the claimed expansion card(Column 5, Lines 43-46 and 51-52). Therefore it would have been obvious to one of ordinary skill in the art to make Thornton's device integral(MPEP 2144.04.V.B) in a PC or alternatively to combine the teachings of Thornton's with that of Heller to make the external device into an internal device, since moving the external device inside a PC would reduce the amount of space taken up by the system. By making Thornton's device internal and changing nothing else, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's internal device. As further evidence, an ATI TV card has loopback signals(ATI-TV Wonder User's Guide, Page 9; Sound signals are looped from the TV card to a sound card). Thus, claim 1 is rejected.

5. Regarding claim 10, Thornton discloses a system of extending the separation range of a keyboard, a video display, and a mouse from a PC. Thornton discloses exterior means for

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connecting video signals to a video display, exterior means for connecting keyboard signals from a keyboard, and exterior means for connecting mouse signals from a mouse(Column 7, Lines 3-12). Thornton further discloses the use of an interface device adapted and configured for interfacing keyboard, video, and mouse signals with a composite signal. Exterior cabling is then used to connect this device with the mouse, keyboard, and video connectors on the PC. The interfacing device is also coupled to a cable, which is coupled to a remote means for separating video signals from a composite signal and combining keyboard and mouse signals into a composite signal. The cable is used to transmit the composite signal to the remote means(Column 7, Lines 35-55).

Thornton does not disclose the use of an internal means for interfacing the video, mouse, and keyboard signals with a composite signal. However, Thornton discloses of an external device that interfaces the keyboard, video, and mouse signals with a composite signal(Column 7, Lines 43-47). Further, Heller discloses the use of an internal means, which receives power internally, that performs the same function as claimed by the applicant(Column 5, Lines 43-46 and 51-52). Therefore it would have been obvious to one of ordinary skill in the art to make Thornton's external device integral(MPEP 2144.04.V.B) in a PC or alternatively to combine the teachings of Thornton's with that of Heller to make the external device into an internal device, since moving the external device inside a PC would reduce the amount of space taken up by the system. By making Thornton's device internal and changing nothing else, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's internal device. As further evidence, an ATI TV card has loopback signals(ATI-TV Wonder User's Guide, Page 9; Sound signals are looped from the TV card to a sound card). Thus, claim 10 is rejected.

6. Regarding claim 11, Thornton does not specifically state what kind of connectors used in his invention. However, Thornton discloses the use of a PC being used with a conventional monitor(Column 6, Lines 61-62) and therefore would have a conventional VGA connector.

Thornton does not specifically state the use of serial devices or ports being used. However, Thornton discloses the use of a conventional PC, which would have serial ports. Further, Thornton discloses the use of I/O devices, such as a joystick, trackball, touchpad, printer, etc.(Column 6, Lines 60, 64-65), which are devices that can be used as serial devices. Heller also discloses connecting a serial port, and interfacing means adapted to interface signals from the serial port with the composite signal(Column 11, Lines 28-31). Therefore, it would have been obvious to have an interfacing device adapted for interfacing signals from a serial port with the composite signal since it would allow more devices to be connected to the PC.

7. Regarding claim 12, Thornton does not disclose the use of an expansion card. However, Heller discloses the use of an interfacing means in the form of an expansion card in an expansion slot(Column 5, Lines 43-46 and 51-52). Therefore it would have been obvious to one of ordinary skill in the art to make Thornton's external device integral(MPEP 2144.04.V.B) in a PC or alternatively to combine the teachings of Thornton's with that of Heller to make the external device into an internal device, since moving the external device inside a PC would reduce the amount of space taken up by the system. By making Thornton's device internal and changing nothing else, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's internal device. As further evidence, an ATI TV card has loopback signals(ATI-TV Wonder User's Guide, Page 9; Sound signals are looped from the TV card to a sound card). Thus, claim 12 is rejected.

8. Regarding claim 17, Thornton discloses a method for extending the separation range of a keyboard, a video display, and a mouse from a PC. Thornton discloses a conventional PC, which uses conventional keyboard, video, and mouse connectors(Column 7, Lines 3-12). Thornton further discloses the use of an interface device that interfaces a single signal transmission path with distinct keyboard, video, and mouse signals. Conventional cabling is then used to connect this device with the mouse, keyboard, and video connectors on the PC. The interfacing device is also coupled to a single cable, which is coupled to a remote device that separates signals from a composite signal into distinct signals. The cable is used to transmit the composite signal to the remote device. The remote device then provides distinct signals to the keyboard, mouse, and video display(Column 7, Lines 35-55).

Thornton does not disclose the use of an I/O interface card for interfacing the video, mouse, and keyboard signals with a composite signal. However, Thornton discloses of an external device that interfaces the keyboard, video, and mouse signals with a composite signal(Column 7, Lines 43-47). Further, Heller discloses the use of an I/O interface card that performs the same function as claimed by the applicant(Column 5, Lines 43-46 and 51-52). Therefore it would have been obvious to one of ordinary skill in the art to make Thornton's external device integral(MPEP 2144.04.V.B) in a PC or alternatively to combine the teachings of Thornton's with that of Heller to make the external device into an internal device, since moving the external device inside a PC would reduce the amount of space taken up by the system. By making Thornton's device internal and changing nothing else, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's internal device. As further

evidence, an ATI TV card has loopback signals(ATI-TV Wonder User's Guide, Page 9; Sound signals are looped from the TV card to a sound card).

Thornton does not specifically state the use of serial devices or ports being used. However, Thornton discloses the use of a conventional PC, which would have serial ports. Further, Thornton discloses the use of I/O devices, such as a joystick, trackball, touchpad, printer, etc.(Column 6, Lines 60, 64-65), which are devices that can be used as serial devices. Heller also discloses connecting a serial port, and interfacing means adapted to interface signals from the serial port with the composite signal(Column 11, Lines 28-31). Therefore, it would have been obvious to have an interfacing device adapted for interfacing signals from a serial port with the composite signal since it would allow more devices to be connected. Thus claim 17 is rejected.

9. Regarding claim 18, it is well known in the art that once an expansion card is inserted in an available slot, which Heller's system does, the expansion card would receive power through the bus.

10. Regarding claim 21, Thornton does not specifically state the use of serial devices or ports being used. However, Thornton discloses the use of a conventional PC, which would have serial ports. Further, Thornton discloses the use of I/O devices, such as a joystick, trackball, touchpad, printer, etc.(Column 6, Lines 60, 64-65), which are devices that can be used as serial devices. Heller also discloses connecting a serial port, and interfacing means adapted to interface signals from the serial port with the composite signal(Column 11, Lines 28-31). Therefore, it would have been obvious to have an interfacing device adapted for interfacing signals from a serial port with the composite signal, since this would allow more devices to be connected.

11. Claims 2-9 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornton, in view of Heller, as applied to the claims above, and further in view of Roberts(Patent number 6,146,150).

12. Regarding claim 2, Roberts discloses a circuit card, which has disposed on opposing sides thereof, a PCI bus mating region and an ISA bus-mating region(Column 4, Lines 21-25). It would have been obvious to one of ordinary skill in the art to combine the teachings of Thornton, Heller, and Roberts to make an expansion card that can be easily used with an ISA bus as well as a PCI bus, since this can allow more flexibility. Plus, present trends point to the eliminations of ISA bus. If an ISA card was being used and a new system is purchased, which might not come with an ISA slot, a new card would have to be purchased. Having a card with both bus connections eliminates this problem.

13. Regarding claims 3-4, Thornton does not disclose what type of cabling is used. However, Thornton discloses the use of RJ-11 jacks(Column 10, Line 60). It is well known in the art, that cables plugging into RJ-11 jacks use twisted pair wiring. It would have been obvious to use UTP cable since it is an inexpensive cable commonly used in the computer industry. The Electronic Industries Association/Telecommunications Industries Association defines the categories of twisted pair cabling. Therefore, it would have been obvious to use the highest category cabling, since it provides the highest bandwidth compared to the other categories.

14. Regarding claims 5-6, Thornton does not specify what kinds of connectors are used on the ends of the cable between the two interfacing devices. However, Thornton discloses the interfacing devices using RJ-11 jacks(Column 10, Lines 60-63), which have female connections.

Therefore, the connectors on the ends of the cable would have been identical male connectors to plug into the female jacks.

15. Regarding claim 7, Thornton discloses the use of RJ-11 jacks(Column 10, Line 60) and therefore would have cabling that uses 2 pairs of twisted wiring. RJ-45 connectors use cabling that has 4 pairs of twisted wiring. It would have been obvious to use RJ-45 cabling with RJ-45 jacks, since it would allow more data to be sent between the interfacing devices.

16. Regarding claim 8, Thornton discloses the use of identical connectors on each end of the connecting cables(Column 7, Lines 38-47).

17. Regarding claim 9, Thornton does not disclose the use of an expansion card. However, it would have been obvious to one of ordinary skill in the art to make Thornton's device integral(MPEP 2144.04.V.B) in a PC, since moving the external device inside a PC would reduce the amount of space taken up by the system. By making Thornton's device internal and changing nothing else, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's internal device, where only power would be supplied internally. Thus, claim 9 is rejected.

18. Regarding claim 13, Roberts discloses a circuit card, which has disposed on opposing sides thereof, a PCI bus mating region and an ISA bus-mating region(Column 4, Lines 21-25). It would have been obvious to one of ordinary skill in the art to combine the teachings of Thornton, Heller, and Roberts to make an expansion card that can be easily used with an ISA bus as well as a PCI bus, since this can allow more flexibility. Plus, present trends point to the eliminations of ISA bus. If an ISA card was being used and a new system is purchased, which might not come

with an ISA slot, a new card would have to be purchased. Having a card with both bus connections eliminates this problem.

19. Regarding claim 14, it is well known in the art that once an expansion card is inserted in an available slot, which Heller's system does, the expansion card would receive power through the bus.

20. Regarding claim 15, Thornton discloses the use of exterior cabling that are conventional cables connecting the interface device with the connectors in the back of the PC (Column 7, Lines 43-47). By making Thornton's device internal and changing nothing else, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's internal device. As further evidence, an ATI TV card has loopback signals (ATI-TV Wonder User's Guide, Page 9; Sound signals are looped from the TV card to a sound card). Thus, claim 15 is rejected.

21. Regarding claim 16, Thornton does not disclose what type of cabling is used. However, Thornton discloses the use of RJ-11 jacks (Column 10, Line 60). It is well known in the art, that cables plugging into RJ-11 jacks use twisted pair wiring. It would have been obvious to use UTP cable since it is an inexpensive cable commonly used in the computer industry. The Electronic Industries Association/Telecommunications Industries Association defines the categories of twisted pair cabling. Therefore, it would have been obvious to use the highest category cabling, since it provides the highest bandwidth compared to the other categories.

22. Regarding claims 22-23, Thornton does not disclose means for coupling to a serial port. However, Thornton discloses the use of a conventional PC, which would have serial ports. Further, Thornton discloses the use of I/O devices, such as a joystick, trackball, touchpad, printer, etc. (Column 6, Lines 60, 64-65), which are devices that can be used as serial devices.

Also, Heller discloses the use of an internal means for connecting the serial port to the expansion card(Column 11, Lines 28-31). Therefore, it would have been obvious to have an interfacing device adapted for interfacing signals from a serial port with the composite signal, since this would allow more devices to be connected.

23. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thornton, in view of Heller, and in further view Behrens et al.(6,609,034), hereinafter referred to as Behrens.

Regarding claim 19, Thornton does not specifically disclose the use of a PC disposed in a rack. However, Thornton discloses that his computing system may be configured as any type of commercially available computer(Column 6, Lines 53-58). Further, Behrens discloses the use of computers in a rack because the rack saves computer room space, which is quite expensive(Column 1, Lines 43-45). Also, Heller's system and Thornton's device made internal, would not require a local exterior module. Therefore, it would have been obvious to combine the teachings of Thornton and Behrens to use Thornton's PC disposed in a rack since it would save computer room space, without an local exterior module.

24. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thornton, in view of Heller, Behrens et al.(6,609,034), admitted prior art, and Roberts.

Thornton discloses a system of extending the separation range of a keyboard, a video display, and a mouse from a PC. Thornton discloses a conventionally configured PC as having keyboard, video, and mouse connectors thereon adapted for coupling with conventional keyboard, video, and mouse cables (Column 7, Lines 3-12). Thornton also discloses an expansion slot configured for provision of power and digital information when occupied by an expansion card, which is inherent in a conventionally configured system. Thornton further

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discloses the use of an interface device adapted and configured for combining and separating keyboard, video, and mouse signals. Exterior cabling with conventional identical connectors on each end is then used to connect this device with the mouse, keyboard, and video connectors on the PC. The interfacing device is also coupled, via a jack on the device, to one end of a cable, and the other end of the cable is coupled to a remote means for separating video signals from a composite signal and combining keyboard and mouse signals into a composite signal. The cable is used to transmit the composite signal to the remote means(Column 7, Lines 35-55).

Thornton does not specifically disclose the use of an industrial PC disposed in a rack. However, Thornton discloses that his computing system may be configured as any type of commercially available computer(Column 6, Lines 53-58). Further, Behrens discloses the use of computers in a rack because the rack saves computer room space, which is quite expensive(Column 1, Lines 43-45). Therefore, it would have been obvious to combine the teachings of Thornton and Behrens to use Thornton's computer as an industrial computer disposed in a rack since it would save computer room space.

Thornton does not disclose the use of sensors for monitoring purposes. However, the applicant admits that sensors monitoring fan speeds and temperature of the microprocessor are well known in the art. Therefore, it would have been obvious to combine the teachings of Thornton, Behrens, and the admitted prior art to include sensors for monitoring fan speeds and the microprocessor's temperature since the sensors would inform of any warning signs inside the PC.

Thornton does not disclose the use of an expansion card. However, Thornton discloses of a device that has keyboard, video, and mouse connectors and a cable jack(Column 7, Lines 43-47

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and Column 10, Line 60) that performs the same function as the expansion card claimed by the applicant. Further, Heller discloses the use of an expansion card that performs the same function as the claimed expansion card (Column 5, Lines 43-46 and 51-52). Therefore it would have been obvious to one of ordinary skill in the art to make Thornton's device integral (MPEP 2144.04.V.B) in a PC or alternatively to combine the teachings of Thornton, Behrens, and the admitted prior art, with that of Heller to make the external device into an internal device, since moving the external device inside a PC would reduce the amount of space taken up by the system. By making Thornton's device internal and changing nothing else, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's internal device, where only power would be supplied internally. As further evidence, an ATI TV card has loopback signals (ATI-TV Wonder User's Guide, Page 9; Sound signals are looped from the TV card to a sound card).

Roberts discloses a circuit card, which has disposed on opposing sides thereof, a PCI bus mating region and an ISA bus-mating region (Column 4, Lines 21-25). It would have been obvious to one of ordinary skill in the art to combine the teachings of Thornton, Behrens, admitted prior art, Heller, and Roberts to make an expansion card that can be easily used with an ISA bus as well as a PCI bus, since this can allow more flexibility. Plus, present trends point to the eliminations of ISA bus. If an ISA card was being used and a new system is purchased, which might not come with an ISA slot, a new card would have to be purchased. Having a card with both bus connections eliminates this problem.

Thornton does not disclose what type of cabling is used. However, Thornton discloses the use of RJ-11 jacks (Column 10, Line 60). It is well known in the art, that cables plugging into RJ-

11 jacks use twisted pair wiring. It would have been obvious to use UTP cable since it is an inexpensive cable commonly used in the computer industry. The Electronic Industries Association/Telecommunications Industries Association defines the categories of twisted pair cabling. Therefore, it would have been obvious to use the highest category cabling, since it provides the highest bandwidth compared to the other categories.

Thornton does not specify what kinds of connectors are used on the ends of the cable between the two interfacing devices. However, Thornton discloses the interfacing devices using RJ-11 jacks(Column 10, Lines 60-63), which have female connections. Therefore, the connectors on the ends of the cable would have been identical male connectors to plug into the female jacks.

Thornton discloses the use of RJ-11 jacks(Column 10, Line 60) and therefore would have cabling that uses 2 pairs of twisted wiring. RJ-45 connectors use cabling that has 4 pairs of twisted wiring. It would have been obvious to use RJ-45 cabling with RJ-45 jacks, since it would allow more data to be sent between the interfacing devices.

Thus, claim 20 is rejected.

Response to Arguments

25. Applicant's arguments filed December 23, 2003 have been fully considered but they are not persuasive. Applicant argues that the looping cables are a foreign notion. However, by making Thornton's device integral and changing nothing else, as noted in the rejection above, the signals would be looped from the PC's keyboard, mouse, and video connectors into Thornton's integral device. As further evidence, an ATI TV card has loopback signals. Therefore, applicant's arguments are not persuasive.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent number 6,038,616 given to Thornton et al. discloses of a computer comprising of a computing system positioned at a first location and a human interface, which includes a video monitor, and plural I/O devices positioned at a second location remotely located relative to the first location.

Patent number 6,078,974 given to Kirshtein discloses of an apparatus, method, and system for providing a virtual open collector circuit for a connection between a computer and computer peripherals, such as a mouse or keyboard, where peripheral data is transferred over a bi-directional communications system. The peripherals are located at distances from the computer greater than possible using typical computer cables.

Patent numbers 6,112,264 and 6,345,323 given to Beasley et al. discloses of a computerized switching system for coupling a workstation to a remotely located computer. A signal-conditioning unit receives keyboard and mouse signals generated by a workstation and generates a data packet, which is transmitted to a central crosspoint switch. The packet is routed through a crosspoint switch to another signal conditioning unit located at a remotely located computer. The second signal-conditioning unit applies the keyboard and mouse commands to the keyboard and mouse connectors of the computer as if the keyboard and mouse were directly coupled to the remote computer. Video signals produced by the remote computer are transmitted through the crosspoint switch to the workstation. Horizontal and vertical sync

signals are encoded on to the video signals to reduce the number of cables that extend between the workstation and the remote computer.

Patent number 6,219,730 given to Nguyen discloses of an apparatus, functioning as a user-input device (UID) to a computer by using a communication link, receives/transmits additional I/O signals via the same link. The I/O signals may be analog or digital. One implementation of the apparatus, made wireless and supported by speech processing software, allows its user to interact with the computer remotely. The inventive apparatus comprises means for converting the I/O signals into/from the digital I/O streams in such a manner as to be transferable to/from the computer along with the UI information via the same communication link.

Patent number 5,193,200 given to Asprey et al. discloses of a communications extension link for use between a computer and display unit that has at the computer site a first interface circuit connected to it and adjacent to the keyboard and display unit a second interface circuit connected to it. The two interface circuits may then be spaced up to 300 feet for a monochrome display and up to 150 feet for a color display by an extension cable.

Patent number 5,375,068 given to Palmer et al. discloses of a video teleconferencing method and apparatus for computer workstations connected by a digital data network includes a transmission source portion for a local workstation to send audio and video teleconference data across the network to one or more remote workstations, and, a receiver for the local workstation to receive audio and video teleconference data back from the remote workstations.

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26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nimesh G Patel whose telephone number is 703-305-7583. The examiner can normally be reached on M-F, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

Nimesh G Patel
Examiner
Art Unit 2112

NP *NP*
January 28, 2004


Glenn A. Auve
Primary Patent Examiner
Technology Center 2100